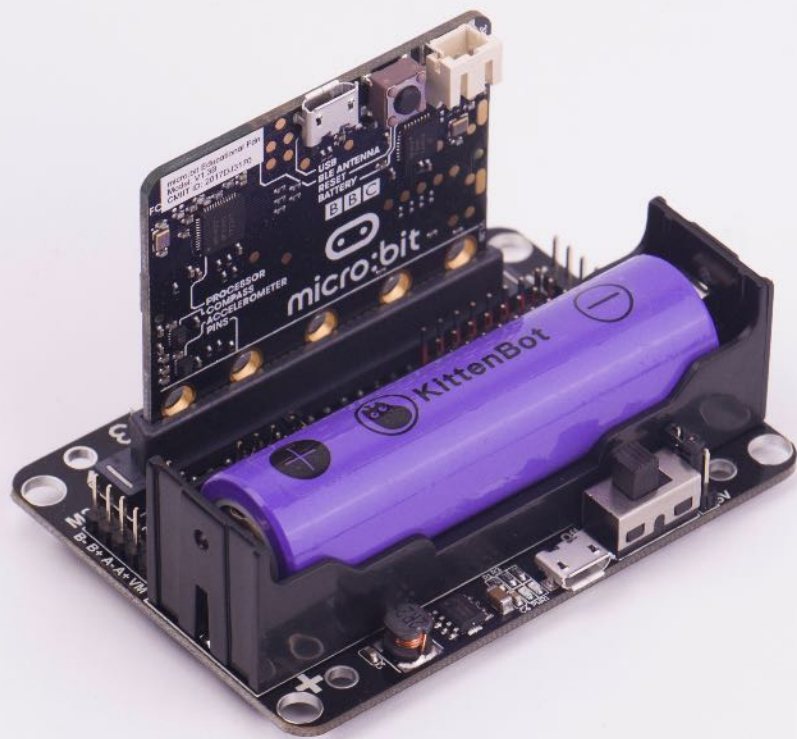


Micro:bit & Robot:bit

简介与使用示例

滕沅建 张颢丹
2018/4/17



01 PART ONE Micro:bit简介

02 PART TWO Robot:bit简介

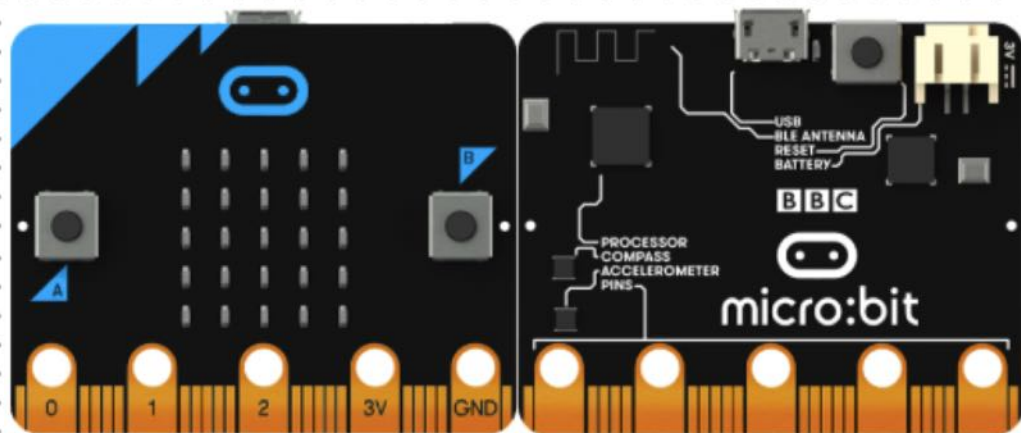
03 PART THREE LED灯示例

04 PART FOUR 音乐播放示例

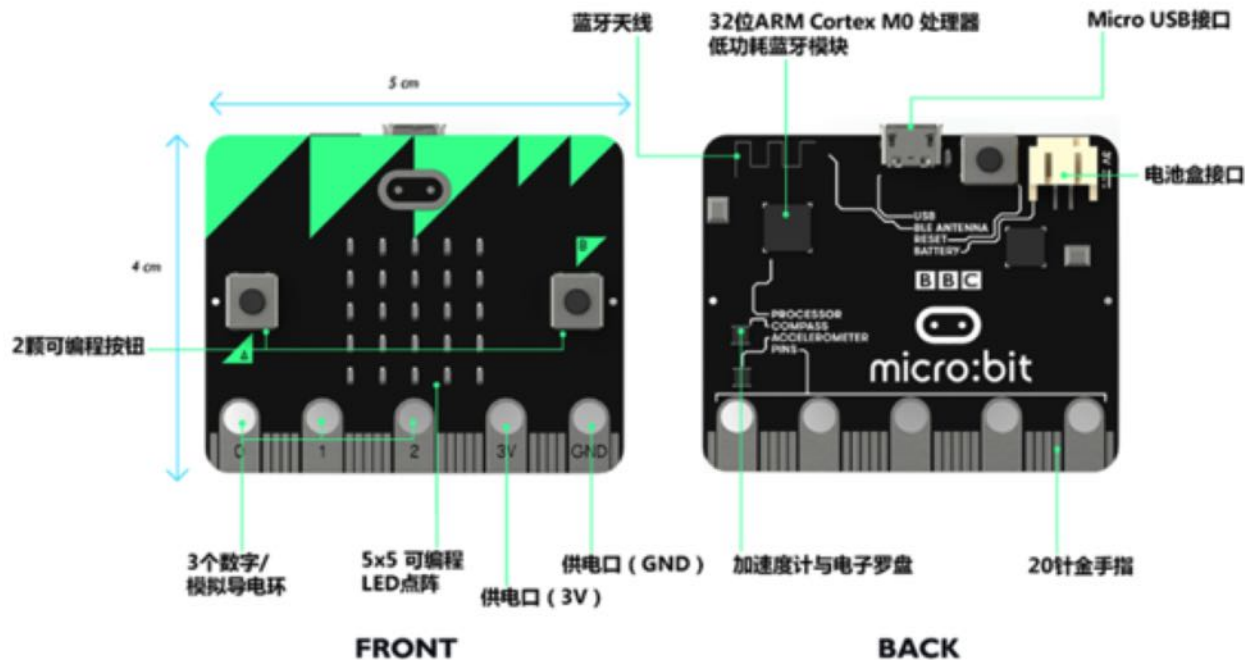
1 Micro:bit 简介

Micro:bit是一款由BBC推出的专为青少年编程教育设计的微型可编程计算机，旨在驱动青少年参与到创造性的硬件制作和软件编程中去。

<http://microbit.org>

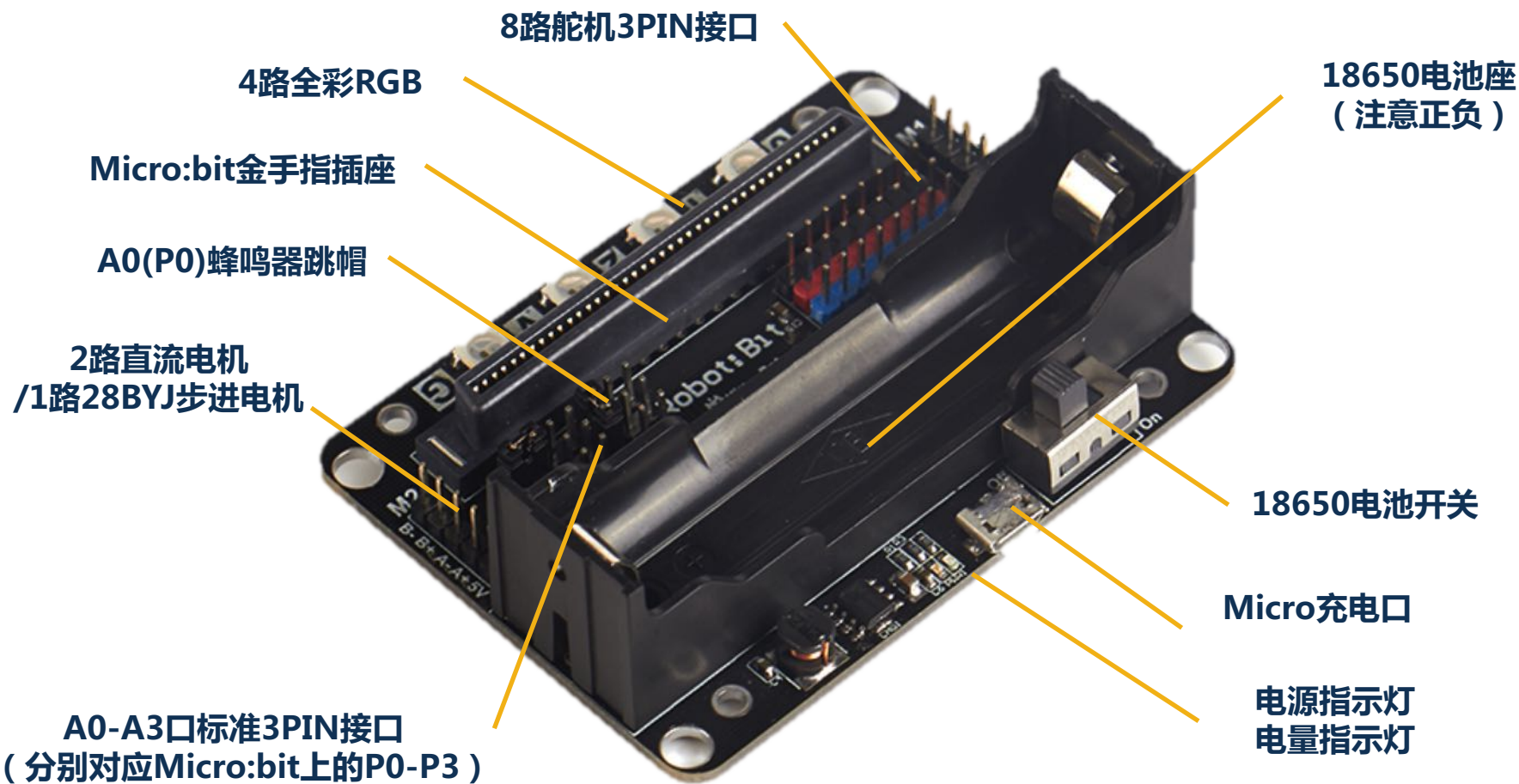


Micro:bit支持JavaScript Blocks Editor（微软开发的在线图形化编程工具）以及Python编程。



Micro:bit开发板尺寸虽小（52mm X 43mm），但集成了种类丰富的电子模块：5x5 LED显示屏，两颗可编程按键，加速度计，电子罗盘，温度光线传感器，低功耗蓝牙等。且支持读取传感器数据，控制舵机与RGB灯带等。

2 Robot:bit简介

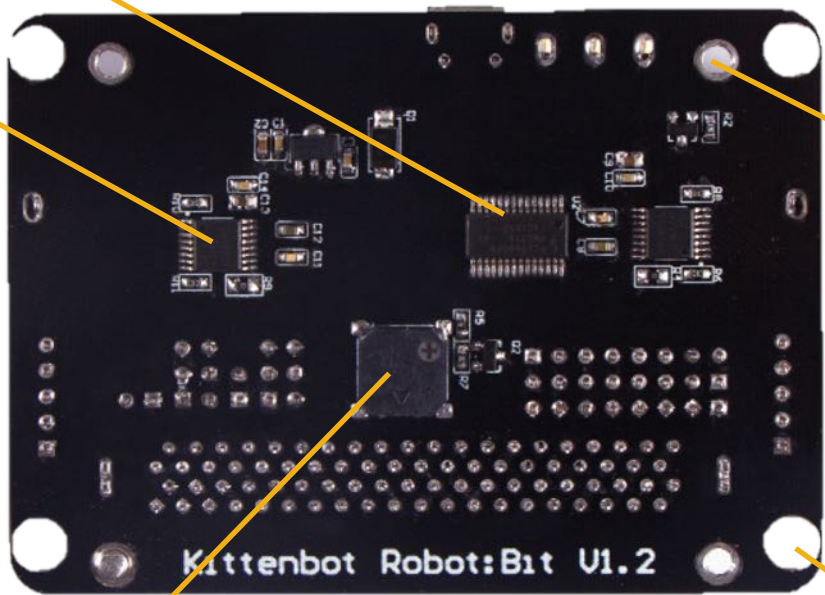


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电机驱动芯片

标准kittenbot金属车
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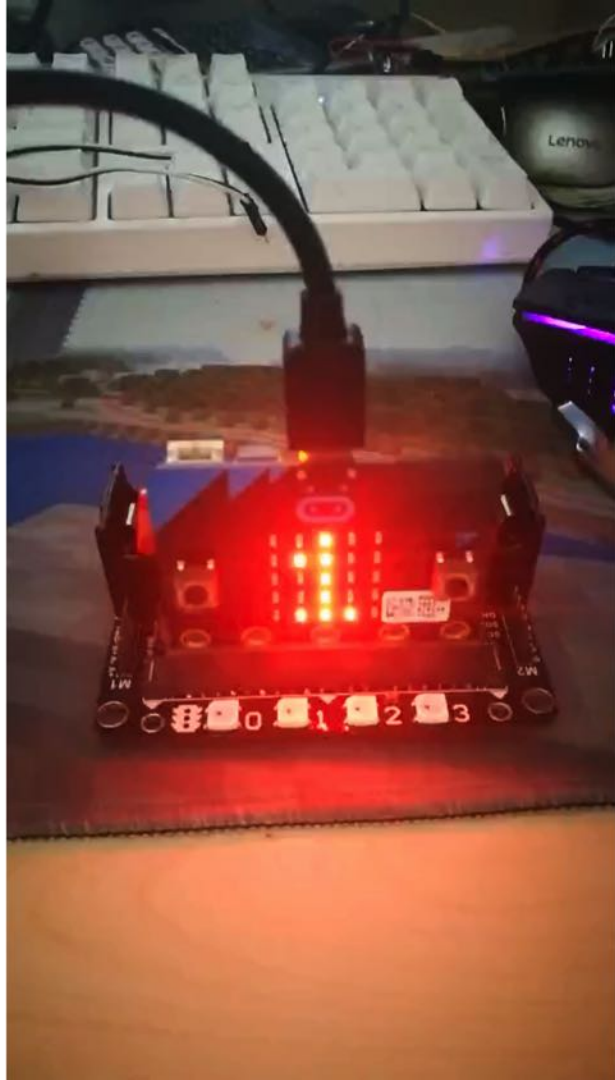


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背面硬件详解

3 LED灯示例

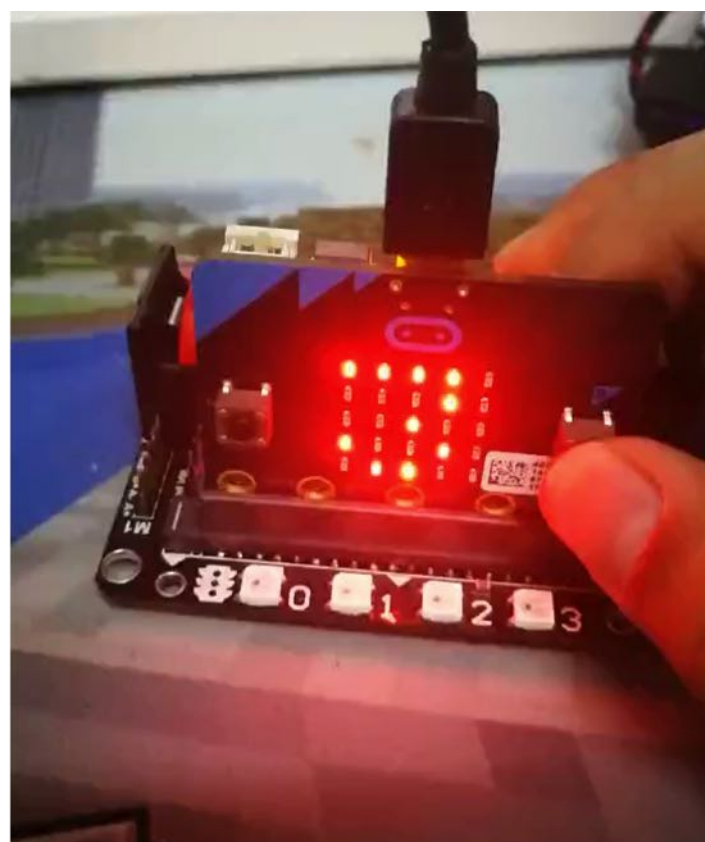
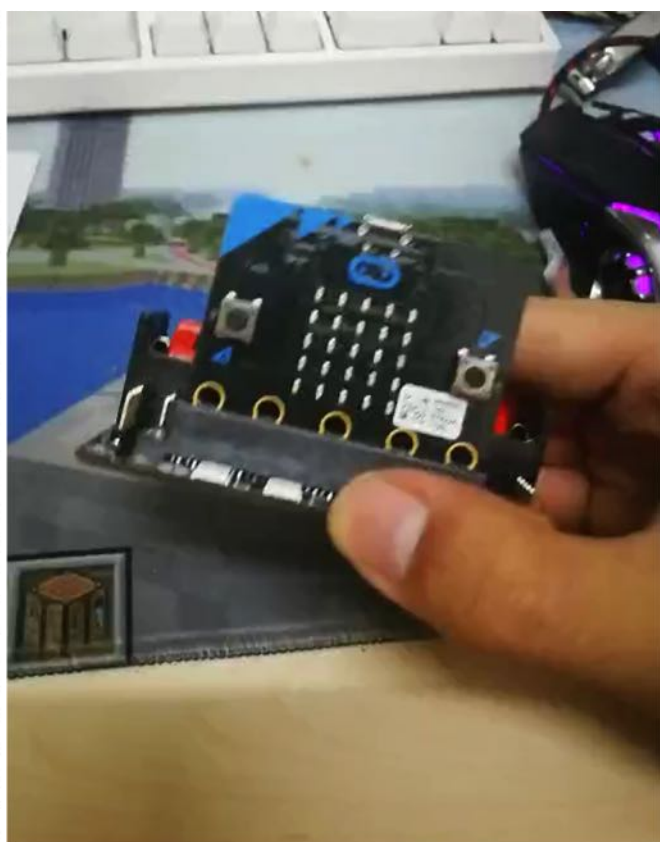


流水灯 & 代码

```
import microbit as m
from random import randint
import neopixel

def rgb():
    np = neopixel.NeoPixel(m.pin16, 8)
    while True:
        for pixel_id in range(0, len(np)):
            red = randint(0, 20)
            green = randint(0, 20)
            blue = randint(0, 20)
            np[pixel_id] = (red, green, blue)
            np.show()
            m.sleep(50)
```

4 音乐播放示例



“摇一摇” 切换音乐

&

《两只老虎》

代码展示

```
import microbit as m
import music

def rand_music():
    musiclst = [music.DADADADUM, music.ENTERTAINER,
                music.PRELUDE, music.ODE,
                music.NYAN, music.RINGTONE,
                music.FUNK, music.BLUES,
                music.BIRTHDAY, music.WEDDING,
                music.FUNERAL, music.PUNCHLINE,
                music.PYTHON, music.BADDY,
                music.CHASE, music.BA_DING,
                music.WAWAWAWAA, music.JUMP_UP,
                music.JUMP_DOWN, music.POWER_UP,
                music.POWER_DOWN]

    while True:
        if m.accelerometer.was_gesture("shake"):
            music.play(random.choice(musiclst))
```

```
def tigers():
    tune = ["C4:4", "D4:4", "E4:4", "C4:4",
            "C4:4", "D4:4", "E4:4", "C4:4",
            "E4:4", "F4:4", "G4:8",
            "E4:4", "F4:4", "G4:8"]
    music.play(tune)
```

THANK YOU
FOR WATCHING